

Bioengineering and Biophysical Aspects of Electromagnetic Fields

The two volumes of this new edition of the Handbook cover the basic biological, medical, physical, and electrical engineering principles. They also include experimental results concerning how electric and magnetic fields affect biological systems—both as potential hazards to health and potential tools for medical treatment and scientific research. They also include material on the relationship between the science and the regulatory processes concerning human exposure to the fields. Like its predecessors, this edition is intended to be useful as a reference book but also for introducing the reader to bioelectromagnetics or some of its aspects.

FEATURES

- New topics include coverage of electromagnetic effects in the terahertz region, effects on plants, and explicitly applying feedback concepts to the analysis of biological electromagnetic effects
- Expanded coverage of electromagnetic brain stimulation, characterization and modeling of epithelial wounds, and recent lab experiments on at all frequencies
- Section on background for setting standards and precautionary principle
- Discussion of recent epidemiological, laboratory, and theoretical results; including: WHO IARC syntheses of epidemiological results on both high and low frequency fields, IITRI lab study of cancer in mice exposed to cell phone-like radiation, and other RF studies
- All chapters updated by internationally acknowledged experts in the field

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